

## **ABSTRACT**

An apparatus for placing a fiber on a substrate, the apparatus including a base, a supporting member attached to the base, a first placement head attached to the support member, the first placement head having an extendable plunger slidably coupled to the first placement head, the first placement head having an airflow channel formed proximate to a tip of the plunger, a substrate carrier attached to the base, wherein, during operation of the apparatus, the substrate carrier holds a substrate beneath the plunger mechanism, and wherein, during operation of the apparatus, a vacuum source is connected to the placement head to draw a flow of air through the airflow channel, and wherein, during operation of the apparatus, the placement head picks up and holds a fiber against the plunger tip using forces associated with the flow of air.

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